



UNITED STATES DEPARTMENT OF COMMERCE

Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

CR

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/104,788 06/25/98 MEYERS

J 97-ST37

PM82/0613

EXAMINER

PATENT SERVICES
SMITH INTERNATIONAL INC
P O BOX 60068
HOUSTON TX 77205-0068

DANG, H

ART UNIT PAPER NUMBER

3672

3

DATE MAILED:

06/13/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/104,788	Applicant(s) Meyers et al.
	Examiner Hoang C. Dang	Group Art Unit 3672

Responsive to communication(s) filed on _____.

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1-68 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 1-68 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on Jun 25, 1998 is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 3672

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7, 31 and 54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The expression “at least about 3mm” in these claims make them indefinite since the words “at least” implies a lower limit and cannot be used with “about”.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-18, 20, 22-42, 44, 46-63, 64, 66 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palmberg (US 5,794,728) in view of Keshavan et al (US 5,370,195) or Hedlund (US 5,575,342).

Art Unit: 3672

Palmberg discloses the invention as claimed except that the exposed portions of the inserts are not enhanced with a superhard material. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the exposed portions of the inserts of Palmberg's with a layer of superhard material as claimed because it is well known in the well drilling art to provide inserts of a percussion drill bit with a layer of polycrystalline diamond to their wear resistance as evidenced by either Keshavan et al (see column 2, lines 35-49 and column 3, lines 3-7) or Hedlund et al (see column 2, lines 58-64 and column 3, lines 28-39).

As for claims 7-11, 51-55 and 54-58, it would have been obvious to use the dimension or value within the claimed ranges since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

5. Claims 1-18, 20-42, 44-64 and 66-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skidmore (US 3,955,635) in view of Keshavan et al (US 5,370,195) or Hedlund (US 5,575,342).

Skidmore discloses the invention as claimed except that the exposed portions of the inserts are not enhanced with a superhard material. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the exposed portions of the inserts of Skidmore's with a layer of superhard material as claimed because it is well known in the well drilling art to provide inserts of a percussion drill bit with a layer of polycrystalline diamond

Art Unit: 3672

to their wear resistance as evidenced by either Keshavan et al (see column 2, lines 35-49 and column 3, lines 3-7) or Hedlund et al (see column 2, lines 58-64 and column 3, lines 28-39).

As for claims 7-11, 51-55 and 54-58, it would have been obvious to use the dimension or value within the claimed ranges since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

6. Claims 1-19, 21, 23-43, 45, 47-49, 50-65 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isakov (US 4,716,976) in view of Keshavan et al (US 5,370,195) or Hedlund (US 5,575,342).

Isakov discloses the invention as claimed (see figures 1-14; column 4, line 37 through column 5, line 24) except that the exposed portions of the inserts are not enhanced with a superhard material. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the exposed portions of the inserts of Isakov's with a layer of superhard material as claimed because it is well known in the well drilling art to provide inserts of a percussion drill bit with a layer of polycrystalline diamond to their wear resistance as evidenced by either Keshavan et al (see column 2, lines 35-49 and column 3, lines 3-7) or Hedlund et al (see column 2, lines 58-64 and column 3, lines 28-39).

As for claims 7-11, 51-55 and 54-58, it would have been obvious to use the dimension or value within the claimed ranges since it has been held that where the general conditions of a claim

Art Unit: 3672

are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Specification

7. The disclosure is objected to because of the following informalities: On page 6, line 13, the US patent no. "4,819,793) is obviously incorrect..

Appropriate correction is required.

Drawings

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: It is noted that the following references are examples only. Applicant are required to carefully check each of the reference numerals in the specification to make sure that they are included in the drawings: "39", "150", "160", "170", "180", "162", "182" and "172". Correction is required.

9. Applicant is required to submit a proposed drawing correction *in reply to this Office action*. However, formal correction of the noted defect can be deferred until the application is allowed by the examiner.

Conclusion

Art Unit: 3672

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Hoang Dang, whose telephone number is (703) 308-2149. The examiner can normally be reached on Monday-Friday from 9:15 AM to 5:45 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell, can be reached on (703) 308-2151. The fax phone number for this Group is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-2168.

A handwritten signature in black ink, appearing to read "HOANG C. DANG".

**HOANG C. DANG
PRIMARY EXAMINER
ART UNIT 3672**

H. Dang/hcd
06/09/2000
91104788.1ST